

NEWS

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Engineers New Sensor System with Arms Control, Cleanup Applications

Westinghouse Idaho Nuclear Co., engineers are working with the National Institute of Standards and Technology (NIST) to jointly develop a new sensor with arms control and environmental cleanup applications.

When fully developed, the new detector, called a microantenna bolometer infrared sensor, will be able to detect changes in vegetative cover, petroleum spills, and heat sources such as rocket exhausts, said Dale Kotter, the WINCO engineer in charge of the project.

NIST developed the science and WINCO, A Department of Energy contractor at the Idaho National Engineering Laboratory, is providing the engineering. Conductus, Inc., a California company, has expressed an interest in commercializing the final product.

Every structure, body, or vegetation gives off a distinct thermal image of itself, which is invisible to the human eye. This image can be detected using a novel infrared detector that relies on microscopic antennas to detect images of heat, Kotter said. These detectors may have applications in night-vision systems, satellite observation of the earth, astronomy, medicine, and national defense.

In March, Kotter's work on the sensor earned a George Westinghouse Signature Award of Excellence for outstanding engineering. The collaborative effort is an example of outstanding cooperation among DOE, the Department of Commerce, and private industry.

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